

spillovers will please anyone who has become frustrated by the conceptual fuzziness present in the literature on knowledge spillovers. Distinguishing pure knowledge spillovers as pure technological externalities and pecuniary knowledge spillovers as market-based knowledge transfer, they argue that most econometric tests fail to separate their effects. Also refreshing is their criticism of a number of highly questionable assumptions about the patenting process that underlie much of the literature utilizing patent citations counts as a means of tracing knowledge flows.

Public policy and the role of government in cluster development are described as the foci for Part V. However, the two papers that make up this section do not really match this description. Rather Peter Maskell presents a theory that explains the existence of clusters in terms of enhanced knowledge creation stemming from cluster organization, the growth of clusters as arising from the cluster's action as a selection device and the boundaries of the cluster, before suggesting some policy implications. Ronald Martin and Peter Sunley's paper, on the other hand, criticizes the cluster as a 'chaotic concept' (p. 433) so weakly defined that it is difficult to identify or study empirically, and suggest cluster building's current popularity with policy-makers may be ineffective and short-lived. This latter piece of work sits a little uneasily with the earlier papers given that the editors state that they have deliberately avoided defining a cluster, arguing that understanding the processes of clustering will enable researchers to define and typify clusters. However, the book would most definitely be incomplete without its inclusion, as this is an important debate.

The work presented ranges from the purely theoretical (such as Steven Klepper's paper 'Employee start-ups in high-tech industries') to empirical studies (such as James D. Adams' contribution on 'Comparative localisation of academic and industrial spillovers'). The contributors hail from a variety of different disciplines such as economic geography, economic sociology, economics, business, management and planning, and accordingly use a number of methodologies: quantitative, qualitative and mixed. The book, therefore, presents studies that make use of network visualizations, statistical modelling, patent citation counts surveys, in-depth interviews, and comparative case studies. However, despite the diverse theoretical and methodological approaches that appear side to side, the collection does not appear overly disjointed as it remains focused on the central issues given in the title. On the other hand, the diversity of the material ensures that while readers interested in clusters, networks and innovation will have probably read one or more of the previously published papers, they will also be likely to find something new and relevant amongst the assortment.

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Clusters in Urban and Regional Development.

ANDY CUMBERS and DANNY MACKINNON (Eds),
Routledge, London (2006). xvii + 232 pp. €96.50 (hbk).
ISBN 0 415 36011 0.

This book contains a collection of 12 papers (including an Introduction) that was previously published as a special issue of *Urban Studies*, issue 5/6 (2004). The theme is clusters and their role in urban and regional development. It includes

contributions by leading academics in various fields, although geographers dominate the list of authors. The papers invariably report the results of qualitative research, which has the benefit of making the book accessible to less quantitatively inclined social scientists and policy makers.

Although the definition is already a source of contention in itself, clusters may be broadly defined as non-random geographical agglomerations of firms with similar or highly complementary capabilities (see the contribution by Peter Maskell and Mark Lorenzen). The phenomenon has long attracted the interest of geographers and economists, notably since the work by MARSHALL (1890) who developed what some refer to as 'standard' agglomeration theory. However, it was the popularization of the cluster concept by PORTER (1990, 1998) that led to a search of academic output and cluster-based policy initiatives for urban and regional development. Rather than drawing solely on Porter's theory, the large body of cluster literature draws on a range of theoretical traditions, including standard agglomeration theory, transaction costs, flexible specialisation, innovative milieux and institutional and evolutionary economics (NEWLANDS, 2003, quoted in a contribution by Paul Benneworth and Nick Henry).

In the introductory contribution the editors contend that despite the growing popularity of the concept, there remains a marked absence of work that critically evaluates the theoretical and policy claims through detailed empirical research. Hence, the purpose of the book is to develop a firmer understanding of the value of the cluster concept as a focus for urban and regional development research and policy and to broaden the empirical base of cluster analysis.

The editors introduce a number of important questions about the value of a clusters approach to urban and regional economic development and the actual operation of clusters. First, what is the added value of the clusters approach to existing theories of agglomeration? Second, how do the key linkages and networks that underpin clusters function as channels of knowledge exchange and learning? Third, how do clusters evolve and adjust to economic change? Fourth, what scope is there for public policy to shape the development of clusters? Fifth, what is the scope of the cluster concept beyond the knowledge economy sectors and a limited number of innovative core regions?

The book is structured in three sections: conceptualizing clusters; clusters, knowledge and innovation; and from dynamic to mature clusters. In the conceptual section Benneworth and Henry most directly address the first question posed by the editors. They engage with MARTIN and SUNLEY'S (2003) critique of the cluster concept, notably the observation that the current eclectic assembly of a diversity of perspectives on clusters is a dubious endeavour. Although agreeing with many of Martin and Sunley's points, Benneworth and Henry promote the value of a multiperspectival approach to clusters. Nick Phelps in his contribution points out that standard agglomeration theory, employing an undifferentiated category of external economies, is unable to explain the increasingly spatially diffuse patterns of economic activity and urbanization. He calls for an understanding of these patterns in terms of a meshing of different types of external economies that are available over different geographical scales. Finally, employing transaction cost theory, Maskell and Lorenzen call for an understanding of clusters as a specific market organization, which is particularly suitable in the

context of ambiguous demand and highly volatile and unpredictable markets.

The second section contains four papers that, in very different ways, deal with the role of clusters in knowledge transfer and innovation. Dominic Power and Mats Lundmark focus on the role of the labour market in knowledge transfer while Richard Harrison, Sarah Cooper and Colin Mason focus on entrepreneurial dynamics. The other two papers (by David Wolfe and Meric Gertler, and by James Simmie) assess the role of clusters in innovation in a more general fashion but the role of the wider, national and global, context is an important theme in both papers.

The final section explores the scope of the cluster concept beyond the knowledge economy sectors and a limited number of innovative core regions by contrasting a range of detailed studies on clustering processes in new and old economy sectors. The studies by Philip Cooke (life sciences and biotechnology clusters), Joseph Leibovitz (the Scottish biotechnology cluster) and Arne Isaksen (software cluster in Oslo) represent the knowledge economy, while Franz Todtling and Michaela Trippl analyse the processes of renewal in two mature clusters: the automotive and metal clusters in the old industrial region of Styria in Austria.

Space does not allow a critical appraisal of the individual papers. The collection of papers certainly achieves the aims of contributing to a firmer understanding of the cluster concept as a focus for urban and regional development. All of the main questions introduced by the editors are addressed in the collection, although the third and fifth questions (regarding adjustment to economic change and the scope of the cluster concept beyond the knowledge economy) receive limited attention. The questions are not addressed systematically – something that was probably not to be expected from a collection of papers originating out of a review issue. The grouping of papers in three sections provides little support to those seeking answers to the specific questions. Some papers would comfortably fit under all three headings. Thus, apart from the comments in the short conclusion of the introductory chapter, it is mainly up to the reader to distil the answers to the questions from the collection of papers.

Individual contributors provide different, and to some extent conflicting, answers to the main questions. However, the editors correctly identify two important lessons arising from most (though not all) papers. Both relate to the second question regarding the functioning of key linkages and networks as channels of knowledge exchange and learning. First, formal channels of labour mobility play an important role in facilitating innovation and learning in clusters and in many cases this role may be more important than the much celebrated informal conventions and relations. Second, rather than focusing on the internal linkages and flows in our analysis of cluster development, research must be sensitive to the external connections on a national and international scale as well.

This book contains an important collection of papers. It serves well as an overview of current thinking regarding the concept of clustering and will be an essential part of any library serving the relevant academic disciplines, notably geography, economics, sociology and planning.

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Location and Competition, STEVEN BRAKMAN and HARRY GARRETSEN, Routledge, New York, NY (2005). xxiii + 136 pp. US\$125.00 (hbk). ISBN 0 415 36547 3.

Making both geographers and economists unhappy is often a sign of good work done within the growing subfield of geographical economics. Such is the case with the recent volume, *Location and Competition*, edited by Steven Brakman and Harry Garretson. In this book Brakman and Garretson and their contributing authors offer a series of chapters designed to make a case for the importance of geographical economics in a way that is suitable for a policy-oriented audience with little background in economics. Economists will likely object to the almost complete elision of the deductive models upon which most of the empirical work in this book is based. Geographers will object to the continued failure of geographical economists to acknowledge almost everything written within geography and regional science in the last 30–50 years. Nevertheless, this book fills a critical gap in the literature by clearly presenting one of the key findings of geographical economics to date, namely that free-markets may not lead to economic equality across regions when firms can benefit from economies of scale. The implications of this finding have, until now, largely been buried within articles on economic theory and it is past time for the policy implications to gain wider purchase within policy circles. Brakman and Garretson have put together a volume that can further this goal, and for this they should be commended.

The editors begin their introductory chapter with a bold statement:

The general conclusion [of mainstream economic theory] is that in a neoclassical world more integration implies that the world becomes more equal. What happens if the neoclassical model is not valid?

(p. ix)

Brakman and Garretson argue that by introducing increasing returns to scale, geographical economics has turned economic theory on its head; finding that with increased integration can come increased concentration and agglomeration of economic activity. Through the rest of the chapter, they set up the trajectory of the book which begins with a justification for focusing on economic inequality, continues with an emphasis on the importance of transport costs in shaping this inequality, and then explores two key issues related to